



Dart Hawkesbury
1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada
Tel (613) 632-5200

Purchasing Receipts

| PO No | Supplier | Line Item No | Rel No | Terms | Purchased Item | Description | For Part No | Project | Equipment ID | Order Qty | Due Date | Received Quantity | Accounting Job No | Serial No | Status | Receive Date | Price/Unit | Aging Days | Past Due | Total | Supplier Name |
|----------|-----------|--------------|--------|--------|-------------------------|--------------------------------|-------------|---------|--------------|-----------|-----------|-------------------|-------------------|-----------|--------|--------------|----------------|------------|----------|----------|------------------|
| PO038635 | MES002-VC | 1 | 1 | Net 30 | MT-BRONZE-C63000-R2 250 | Bronze C63000 Round Bar 2.250" | | | | 1 | 1/15/2018 | 1 | | S032573 | Stock | 1/16/2018 | \$ 440.00 / ft | 0 | | \$440.00 | Metaux Solutions |
| Total: | | | | | | | | | | 1 | | 1 | | | | | | | | \$353.43 | |

Plex 1/16/2018 10:12 AM Dart Plouffe Sonia

Status: Receiving

Part: **MT-BRONZE-C63000-R2**

Created: 1/16/18 10:11 AM DART.PLOUFFE.SONIA



Serial No: **S032573**

Printed By: Plouffe, Sonia 1/16/18 10:11 AM

Shipping Order

12/01/2018

METAUX SOLUTIONS INC
2625 BOUL JACQUES CARTIER EST
LONGUEUIL, QUEBEC
J4N 1L7
Tel. : 450 641-3330

Order : 131361
Reference : 38635
Ship : PICK UP / PICK UP

Customer : 6323336

Ship To

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

Same

Tel. : 1 613 632-3336

| Item No. | Description | Qty | Qty. Deliver | B/O Qty |
|----------|-------------|-----|--------------|---------|
|----------|-------------|-----|--------------|---------|

ABR214

***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR
LE PACKING SLIP INSCRIRE LES HEAT N

ALU-BRONZE 2.250 DIA c63000

1 x 12" *****

ht; P10158

1

8/18-01-16.

ship puro collect #768382

jp

Shipping : _____
Package No : _____

Ref. : _____

Merchandise Received: _____

Shipping Order

12/01/2018

TAUX SOLUTIONS INC
625 BOUL JACQUES CARTIER EST
LONGUEUIL, QUEBEC
J4N 1L7
Tel.: 450 641-3330

Order : 131361
Reference : 38635
Ship : PICK UP / PICK UP


Customer: 6323336

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

Ship To

Same

Tel.: 1 613 632-3336

| Item No. | Description | Qty | Qty. Delivered | B/O Qty |
|----------|--|-----|----------------|---|
| ABR214 | ***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR LE PACKING SLIP INSCRIRE LES HEAT N ALU-BRONZE 2.250 DIA c63000 1 x 12" ***** ht; P10158 | 1 | 1 |  |

ship puro collect #768382

jp

Shipping : _____
Package No : _____
Merchandise Received: _____
Ref. : _____



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO038635**

Supplier: MES002-VC
Metaux Solutions
2625 boul Jacques-Cartier Est
Longueuil
QC
J4N 1L7 Canada
Phone: 800 558 8858
Fax: 514 633 8044

PO No: PO038635

PO Date: 12/13/17

Due Date: 12/21/17

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

E-MAILED
DEC 13 2017

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments:

Items

| Line Item | Part | Description | Status | Due Date | Order Quantity | Received Quantity | Balance | Unit Price (CAD) | Extended Price |
|-----------|-------------------------|--------------------------------|--------|----------|----------------|-------------------|---------|------------------|----------------|
| 1 | MT-BRONZE-C63000-R2.250 | Bronze C63000 Round Bar 2.250" | Firmed | 12/21/17 | ✓ 1 ft | 0 ft | 1 ft | \$440.00/ft | \$440.00 |

Line Item Note MAT'L AS PER BRONZE C63000 AS PER ANS 4640 OR ASME SB150 OR ASTM B150 OR SAE J461 OR SAE J463

Grand Total: \$440.00

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 12/13/17 11:26 AM dart.lavoie.chantal

Chantal Lavoie

From: Jérôme Primeau <j.primeau@metauxsolutions.com>
Sent: Thursday, December 07, 2017 1:40 PM
To: Chantal Lavoie
Subject: RE: Material/Bronze

OFFER C63000 HR50 2.25" DIA. X 12" 440.00\$/PCE 5/7 DAYS

THANK YOU

MT-Bronze C63000 - R 2.250

De : Chantal Lavoie [mailto:clavoie@dartaero.com]
Envoyé : Thursday, December 7, 2017 10:46 AM
À : Jérôme Primeau <j.primeau@metauxsolutions.com>
Objet : RE: Material/Bronze

thanks

From: Jérôme Primeau [mailto:j.primeau@metauxsolutions.com]
Sent: Thursday, December 07, 2017 10:46 AM
To: Chantal Lavoie <clavoie@dartaero.com>
Subject: RE: Material/Bronze

Stiil waiting will get back

De : Chantal Lavoie [mailto:clavoie@dartaero.com]
Envoyé : Thursday, December 7, 2017 10:35 AM
À : Jérôme Primeau <j.primeau@metauxsolutions.com>
Objet : RE: Material/Bronze

Hi Jerome,
Any news on this mat'l.
Thanks
Chantal

From: Chantal Lavoie
Sent: Wednesday, December 06, 2017 10:59 AM
To: 'Jérôme Primeau' <j.primeau@metauxsolutions.com>
Subject: FW: Material/Bronze

Hi Jerome,
Please advise price an delivery on mat'l.

Aluminum-Nickel-Bronze 630 per AMS 4640 per ASME SB150 or ASTM B150 or SAE J461 or J463
2.250"OD x 12"LONG round bar.

Thanks
Chantal

**ACIER OUELLETTE INC.**

935, Boul. du Havre
Salaberry de Valleyfield (Québec) J6S 5L1
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

Quotation**SOU0075787****Billed to**


DART AEROSPACE LTD
1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Shipped to

, Ontario,

Att : CHANTAL LAVOIE Tél.: 613-632-5200

Customer N° CLI0001056
Date 2017/12/07
Revision N° 0
Prices valid until 2017/12/14
Your Order N°
Processed by BERNARD
Salesman JOSIANNE
Carrier OUELLE SDV
Credit Terms Net 30 Days
Page 1

| Product N° and description | Weight | Qty | U/M | Qty | U/M | Price | Pcs Nb | Price | Amount |
|---|--------|------|-----|------|-----|-------|--------|-----------|----------|
| ROUND ALU/NICKEL/BRONZE C 6300 2 1/4" DIA N 1 X 12" 5-6 DAYS | 0.00 | 1.00 | UN | 1.00 | UN | | 1.00 | 1 305.000 | 1 305.00 |
| SURCHARGE ENERGETIQUE FRAIS_ENERGETIQUE  | | | \$ | | | | | | 3.95 |
| Total Weight (Lbs) | | 0.00 | | | | | | | |

Important

This offer is based on availability and current pricing conditions that may be revised upon presentation of the order.
Ceci est une offre soumise à la disponibilité et aux conditions de prix de l'acier sur le marché.
This offer is subject to availability and current pricing conditions and is subject to credit approval.

Approved and Accepted by : _____

Date : _____

Sub-total 1 308.95

TVH-13 · 170.16

Total (\$CAD) 1 479.11

Daniel Paquette

From: Daniel Paquette
Sent: Wednesday, December 06, 2017 10:41 AM
To: Chantal Lavoie
Subject: FW: Material/Bronze

Any news on this?

Aluminum-Nickel-Bronze 630 per AMS 4640 per ASME SB150 or ASTM B150 or SAE J461 or J463
2.250"OD x 12"LONG round bar.

Linda asked me for the route and BOM for this part Nov.6 all I need to finish is the material. Thanks.

From: Daniel Paquette
Sent: Wednesday, November 29, 2017 11:00 AM
To: Chantal Lavoie <clavoie@dartaero.com>
Subject: FW: Material/Bronze

Any news on this? Thanks.

From: Daniel Paquette
Sent: Monday, November 20, 2017 1:44 PM
To: Chantal Lavoie <clavoie@dartaero.com>
Subject: FW: Material/Bronze

Can you let me know as soon as possible for this, production will be needing this shortly. Thanks.

From: Daniel Paquette
Sent: Thursday, November 16, 2017 8:39 AM
To: Chantal Lavoie <clavoie@dartaero.com>
Subject: Material/Bronze

Hi Chantal, does one of our suppliers offer this material? If so I would need 2.250"OD x 12"LONG round bar. Thank you.

Aluminum-Nickel-Bronze 630 per AMS 4640 per ASME SB150 or ASTM B150 or SAE J461 or J463

From: William Monterroza
Sent: Wednesday, November 15, 2017 10:41 PM
To: Daniel Paquette <dpaquette@dartaero.com>; Scott Cameron <scameron@dartaero.com>; Vanessa Morel <vmorel@dartaero.com>
Cc: David Duval <dduval@dartaero.com>
Subject: RE: Material spec. DWG. Bronze

Dan,
The material called out on the drawing is Aluminum-Nickel-Bronze 630 per AMS 4640 per ASME SB150 or ASTM B150 or SAE J461 or J463

Can you check with supply chain if this is something they can get? If they can get this, then we don't need to change the drawing. If they cannot, I believe that the material in MBRONZR spec may be OK to use for this application.

Thanks
Will

From: Daniel Paquette

Sent: Wednesday, November 15, 2017 6:37 PM

To: Scott Cameron <scameron@dartaero.com>; Vanessa Morel <vmorel@dartaero.com>

Cc: William Monterroza <wmonterroza@dartaero.com>; David Duval <dduval@dartaero.com>

Subject: Material spec. DWG. Bronze

Need a spec. DWG for this. We have MBRONZR DWG but it is for oil impregnated. Thanks.
Ref; SWA6A-400

DANIEL PAQUETTE

Production Engineering Coordinator

DART AEROSPACE

T 1 613 632-5200 > 236

F 1 613 632-5246

1 800 556- 4166

www.dartaerospace.com



ISO 9001 2008
AS 9100 Rev. C
LRQ. 0902066

BOLTON AEROSPACE LIMITED
TEST CERTIFICATE
EN 10204:2004 3.1



CUSTOMER

| | | |
|--|-------------------------|----------------|
| BOLTON AEROSPACE LIMITED MATERIALS NA TRIC | TEST CERTIFICATE No | L33923 Rev : 0 |
| | SERIAL / BATCH / LOT No | L33923 |
| | CUSTOMER ORDER No | 5400341958-R05 |
| | WORKS ORDER No | 540961 |

SPECIFICATIONS

ASTM B150-12 C63000 HR50 (HIGH STRENGTH)
QQ-C-465B AMD1 C63000 HIGH STRENGTH
AMS 4640H 2011 HR50

DESCRIPTION

CA18 2.25IN Round 144IN Machined Rod (MR)
Nickel Aluminum Bronze

| | |
|------------------------|-------|
| WEIGHT ORDERED (Kg) | 1,361 |
| WEIGHT DESPATCHED (Kg) | 1,422 |

MECHANICAL / PHYSICAL PROPERTIES

| Tensile Specification | Heat No | Dia d | Area So | 0.5% Yield Strength E.U.L | U.T.S. Rm | Elongation 4D | Hardness |
|-----------------------|---------|-------|-----------------|---------------------------|-----------|---------------|------------|
| ASTM E8 15a | P1015 | mm | mm ² | Ksl | Ksl | % | HBW10/3000 |
| | | 12.50 | 122.72 | 67.4 | 114.1 | 22.7 | 229 |
| | T3687 | 12.51 | 122.91 | 65.4 | 114.0 | 20.3 | 229 |
| | | 12.51 | 122.91 | 65.8 | 113.7 | 19.0 | 229 |
| | T3688 | 12.51 | 122.91 | 62.8 | 112.5 | 18.9 | 229 |
| | | 12.51 | 122.91 | 61.9 | 111.8 | 17.1 | 223 |
| | Min | 12.51 | 122.91 | 62.5 | 112.1 | 16.7 | 223 |
| | | | | 55.0 | 105.0 | 10 | 187 |
| | Max | | | n/a | n/a | n/a | 241 |

CHEMICAL COMPOSITION

| Heat No | Zn | Fe | Mn | Al | Ni | Sn | Pb | Si | Cu+Ag | Ni+Co | Weight (Kg) |
|---------|------|------|------|-------|------|------|-------|------|-------|-------|-------------|
| P1015 | 0.05 | 3.78 | 0.24 | 9.86 | 4.73 | 0.02 | <0.01 | 0.08 | BAL | 4.73 | 605 |
| T3687 | 0.01 | 3.70 | 0.16 | 9.88 | 4.78 | 0.01 | <0.01 | 0.04 | BAL | 4.78 | 510 |
| T3688 | 0.07 | 3.69 | 0.32 | 9.91 | 4.78 | 0.02 | <0.01 | 0.04 | BAL | 4.79 | 307 |
| Min | - | 2.00 | - | 9.00 | 4.00 | - | - | - | - | 4.00 | |
| Max | 0.30 | 4.00 | 1.50 | 11.00 | 5.50 | 0.20 | 0.50 | 0.25 | BAL | 5.50 | |

REMARKS

Residual stress test satisfactory
Extruded Drawn and stress relieved
Country of Melt and Manufacture Is UK
No Weld Repairs
CURD00672.

We certify that material is free from mercury contamination

Signed for on behalf of
BOLTON AEROSPACE LIMITED

JGaffney

Senior Inspector : J.Gaffney

Signed : 13 Jun 2017

Printed : 16 Jun 2017

Bolton Aerospace Limited

PO Box 22, Hadleigh Road, Ipswich, Suffolk, IP2 0EG

Tel: +44 (0) 1473 252127 Fax: +44 (0) 1473 218229

Email: mail@boltonmetals.com www.boltonmetals.com

Registered in England Company Number 05832146

BOLTON AEROSPACE LIMITED
CERT OF CONFORMITY
AND/OR APPROVED CERTIFICATE



CUSTOMER

| | | |
|--|-------------------------|----------------|
| | TEST CERTIFICATE No | L33923 Rev : 0 |
| | SERIAL / BATCH / LOT No | L33923 |
| | CUSTOMER ORDER No | 5400341958-R05 |
| | WORKS ORDER No | 540961 |
| | CERT OF CONFORMITY | L33923 |

SPECIFICATIONS

ASTM B150-12 C63000 HR50 (HIGH STRENGTH)
QQ-C-465B AMD1 C63000 HIGH STRENGTH
AMS 4640H 2011 HR50

DESCRIPTION

CA18 2.25IN Round 144IN Machined Rod (MR)
Nickel Aluminium Bronze

| | |
|------------------------|-------|
| WEIGHT ORDERED (Kg) | 1,361 |
| WEIGHT DESPATCHED (Kg) | 1,422 |

REMARKS / CONDITION OF MATERIAL :

DEVIATIONS, e.g. Major Concessions or Production Permit :

The products to which this declaration relates conform to the conditions and requirements of the purchaser and to the description, quantity and specification stated. These products have been produced under a certified quality system. The test results have been determined by an assessed or accredited laboratory

ISO 9001 2008, AS 9100 Rev.C
LRQ. 0902066

Signed for on behalf of
BOLTON AEROSPACE LIMITED

Senior Inspector : J. Gaffney

Signed : 13 Jun 2017

Printed : 16 Jun 2017

Bolton Aerospace Limited

PO Box 22, Hadleigh Road, Ipswich, Suffolk, IP2 0EG
Tel: +44 (0) 1473 252127 Fax: +44 (0) 1473 218229
Email: mail@boltonmetals.com www.boltonmetals.com
Registered in England Company Number 05832146

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-Bronze-C63000-R2.250

PO / BATCH NO.: 038635/5032573

DATE: JAN 16 2018

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 1"
 QUANTITY INSPECTED: 1"
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 2.250
 THICKNESS RECEIVED: 2.250
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

| DESCRIPTION | NCR (Check Y/N) | | COMMENTS |
|--|-----------------------|-----|---------------|
| SURFACE DAMAGE | Y | (N) | |
| CORRECT FINISH | (Y) | N | |
| CORROSION | Y | (N) | |
| CORRECT GRAIN DIRECTION | (Y) | N | |
| CORRECT MATERIAL PER M-DRAWING | (Y) | N | Ams 4640 |
| CORRECT THICKNESS | (Y) | N | |
| PHOTO REQUIRED | Y | (N) | |
| CORRECT REF # TO LINK CERT | (Y) | N | Heat # P90158 |
| CORRECT MATERIAL IDENTIFICATION | (Y) | N | |
| CORRECT M# ON THE MATERIAL | (Y) | N | |
| DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF | Y | (N) | |
| DOES THIS REQUIRE AN EXTRUSION REPORT | Y | (N) | |

| CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW | | | | | |
|--|-----|-----|-------|-------|---------|
| | HRC | HRB | DUR A | DUR D | WEBSTER |
| TYPE OF MATERIAL | | | | | |
| SIZE OF TEST SAMPLE | | | | | |
| HARDNESS / DUROMETER READING | | | | | |

testers located in the Quality Office

| | | | |
|-------------------------------|----------------------|-----------------------------------|--|
| QC 18 INSPECTION | | ENGINEERING SIGNOFF (if required) | |
| INSPECTED BY: <u>DAS 11</u> | SIGNED OFF BY: _____ | | |
| DATE: <u>9-89 JAN 16 2018</u> | DATE: _____ | | |

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

8 7 6 5 4 3 2 1

| REV. | DESCRIPTION | ECN # | DATE | BY | APPROVED |
|------|-------------|--------|----------|----|----------|
| A | NEW ISSUE | 17-787 | 17.12.12 | VM | ML |

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: BRONZE C63000
SPECIFICATION: AMS 4640 OR ASME SB159 OR ASTM B150 OR SAE J461 OR SAE J463
PART NUMBER: MT-BRONZE-C63000-R-D.DDD]
EXAMPLE: 1/4" ROUND BRONZE C63000 = MT-BRONZE-C63000-R-0.250
WHERE D.DDD IS DIAMETER IN INCHES

| | |
|---|------------------|
| DART AEROSPACE Hemel Hempstead, Herts, UK | |
| TITLE BRONZE C63000 ROUND BAR | |
| PART NO. MT-BRONZE-C63000-R | REV A |
| TOOL NO. | |
| UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES FRACTIONS ARE IN 16THS OF AN INCH DECIMALS ARE TO 3 PLACES TOLERANCES APPLY TO ALL DIMENSIONS | |
| DESIGNED BY: VM 12/12/2017 | NO. OF SHEETS: 1 |
| DRAWN BY: VM 12/12/2017 | XX 1.00 |
| CHECKED BY: ML 12/12/2017 | XX 1.00 |
| WFO REVIEW BY: DP 12/12/2017 | XX 1.00 |
| APPROVED BY: ML 12/12/2017 | XX 1.00 |
| SCALE: NTS | |
| SHEET 1 OF 1 | |
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8 7 6 5 4 3 2 1